

REMARKS/ARGUMENTS

Claims 1-18 were previously pending in the application. Claims 1-18 are amended, and new claims 19-27 are added herein. Assuming the entry of this amendment, claims 1-27 are now pending in the application. The Applicant hereby requests further examination and reconsideration of the application in view of the foregoing amendments and these remarks.

Claim Objections

In paragraph 2 of the office action, the Examiner objected to claims 2-6 and 8-18 for certain informalities.

In response to the objections to claim 13, line 3; claims 2-6, line 1; and claims 8-12 and 14-18, line 1, the Applicant has amended the claims are suggested by the Examiner.

In response to the objection to claim 16, line 2, the Applicant has amended claim 16 to recite "an incoming digital stream" to distinguish that digital stream from the digital stream recited in claim 13.

In response to the objection to claim 17, line 4, the Applicant has amended claim 17 to recite "any packet-switched network" to clarify that claim 17 refers to any packet-switched network, including the packet-switched network recited in claim 13.

In view of the foregoing, the Applicant submits that the claim objections have been overcome.

Claim Rejections under 35 U.S.C. 112, Second Paragraph

In paragraph 3, the Examiner rejected claim 16 under 35 U.S.C. 112, second paragraph, as being indefinite. In response, the Applicant has amended claim 16 to recite "an outgoing packetized derived signal" to distinguish that signal from the packetized derived signals recited in claim 13. The Applicant submits therefore that the rejections of claims under Section 112, second paragraph, have been overcome.

Prior Art Claim Rejections

In paragraph 5, the Examiner rejected claims 7-10 and 13-17 under 35 U.S.C. 102(b) as being anticipated by Lucas. In paragraph 6, the Examiner rejected claims 1-4 and 18 under 35 U.S.C. 103(a) as being unpatentable over Lucas in view of Bellenger. In paragraph 8, the Examiner indicated that claims 5-6 and 11-12 would be allowable if rewritten to overcome the rejections under Section 112, second paragraph, and to include all of the limitations of the base claim and any intervening claims. For the following reasons, the Applicant submits that all of the now-pending claims are allowable over the cited references.

Claims 1, 7, 13, and 16-17 have been amended to clarify that the recited packetized derived signals are packetized derived voice signals. Claim 1 has been further amended to emphasize that at least one of the packet-mode card and the packet interface is capable of distinguishing packetized data signals from packetized derived voice signals. Similarly, claim 7 has been further amended to add the step of distinguishing packetized derived voice signals from packetized data signals. Support for these further amendments to claims 1 and 7 is found on page 12, lines 13-29, of the specification.

Claim 13

According to claim 13, packetized data signals and packetized derived voice signals are received from a packet-mode customer premises equipment (CPE) unit. It is then determined whether each packet received from the packet-mode CPE unit is a data packet or a derived voice packet. Each data packet from the packet-mode CPE unit is transmitted directly to a packet-switched network for packet-based switching. Each derived voice packet from the packet-mode CPE unit is converted into a digital stream that is transmitted directly to a circuit-switched network for circuit-based switching.

Fig. 2 illustrates an example of the functionality recited in claim 13, where:

- o DSL CPE 131 is an example of the packet-mode CPE unit of claim 13;
- o Packet-switched network 119 is an example of the packet-switched network of claim 13;
and
- o Circuit-switched network 125 is an example of the circuit-switched network of claim 13.

DLC system 205 (in particular, DSL line card 209) receives packetized data signals (DATA) and packetized derived voice signals (D-V) from DSL CPE 131. DLC system 205 (in particular, DSL line card 209) determines whether each packet received from DSL CPE 131 is a data packet or a derived voice packet. (DSL line card 209 forwards (i) each data packet to packet interface 211 and (ii) each derived voice packet to derived signal server 219.) DLC system 205 (in particular, packet interface 211) transmits each data packet from DSL CPE 131 directly to packet-switched network 119 for packet-based switching. DLC system 205 (in particular, derived signal server 219) converts each derived voice packet from DSL CPE 131 into a digital stream (which is forwarded from derived signal server 219 to circuit interface 217 via controller 215). DLC system 205 (in particular, circuit interface 217) transmits the digital stream directly to circuit-switched network 125 for circuit-based switching.

Thus, DLC system 205 receives packetized data signals and packetized derived voice signals from DSL CPE 131, distinguishes the data packets from the derived voice packets, transmits the data packets directly to packet-switched network 119, converts the derived voice packets into a digital stream, and transmits the digital stream directly to circuit-switched network 125.

In rejecting claim 13, the Examiner relied on the teachings in Lucas. The Applicant respectfully submits that the Examiner mischaracterized the teachings in Lucas in rejecting claim 13.

Lucas teaches a bulk/interactive data switching system that receives both (1) voice and bulk data transmissions and (2) interactive data transmissions. In particular, the switching system of Lucas has (1) a traditional circuit switch for interconnecting users who generate voice and bulk data transmissions and (2) a packet switch that handles interactive data transmissions from interactive data terminations. See Fig. 2 and column 1, line 63, to column 2, line 3.

The voice and bulk data taught by Lucas are not packetized signals, they are continuous (i.e., circuit-based) signals. That is why they are handled by Lucas's circuit switch, rather than by Lucas's packet switch. If they were all packetized signals, presumably all of the signals described in Lucas could all be handled by a single packet switch.

In rejecting claim 13, the Examiner stated that Lucas's "voice and bulk data corresponds to the derived signals" recited in claim 13. This constitutes a mischaracterization of the teachings in Lucas. As described in the present application, derived signals are packetized signals and, in particular, derived voice signals are packetized voice signals. See page 5, lines 6-8, of the specification. Thus, it is not true

that Lucas's voice and bulk data correspond to the packetized derived signals recited in claim 13. On page 9 of the office action, the Examiner explicitly admitted that Lucas does not teach packetized derived voice signals.

According to claim 13, it is determined whether each packet is a data packet or a derived voice packet. Lucas provides no such teaching, because Lucas does not teach anything about derived packets, let alone derived voice packets. Claim 13 recites further that each derived voice packet is converted into a digital stream, which is transmitted directly to a circuit-switched network. Here, too, Lucas provides no such teaching, because, in Lucas, the voice and bulk data are already circuit-based digital streams when they are received at the switching system.

For all these reasons, the Applicant submits that claim 13 is allowable over Lucas. Since claims 14-18 depend variously from claim 13, it is further submitted that those claims are also allowable over Lucas.

Claim 16

According to claim 16, an incoming digital stream is received directly from the circuit-switched network and converted into an outgoing packetized derived voice signal, which is transmitted to the packet-mode CPE unit.

In rejecting claim 16, the Examiner cited particular teachings in Lucas that are related to data signals, not voice signals. Claim 16 has been amended to emphasize that the packetized derived signals are packetized derived voice signals. As described previously, Lucas provides absolutely no teachings related to packetized derived voice signals, let alone teachings related to converting an incoming digital stream received from a circuit-switched network into an outgoing packetized derived voice signal for transmission to a packet-mode CPE unit.

The Applicant submits that this provides additional reasons for the allowability of claim 16.

Claim 17

According to claim 17, the access system enables the packet-mode CPE unit to transmit and receive packetized derived signals to and from the circuit-switched network without using any packet-switched network and without using any external gateway interconnecting the circuit-switched network and any packet-switched network.

As with claim 16, in rejecting claim 17, the Examiner cited particular teachings in Lucas that are related to data signals, not voice signals. As with claim 16, claim 17 has been amended to emphasize that the packetized derived signals are packetized derived voice signals. As described previously, Lucas provides absolutely no teachings related to packetized derived voice signals, let alone teachings related to enabling a packet-mode CPE unit to transmit and receive packetized derived signals to and from a circuit-switched network without using any packet-switched network and without using any external gateway interconnecting the circuit-switched network and any packet-switched network.

The Applicant submits that this provides additional reasons for the allowability of claim 17.

Claim 7

According to the method of claim 7, packetized derived voice signals are distinguished from packetized data signals. Each upstream packetized data signal received from a local packet-mode CPE

unit is transmitted to a packet-switched network. If a downstream packetized data signal received from the packet-switched network is destined for a local packet-mode CPE unit, then the downstream packetized data signal is transmitted to the local packet-mode CPE unit. Each upstream packetized derived voice signal received from either a local packet-mode CPE unit or the packet-switched network is converted into an upstream digital stream, which is transmitted to a circuit-switched network. If a downstream digital stream received from the circuit-switched network is destined for a local packet-mode CPE unit, then the downstream digital stream is converted into a downstream packetized derived voice signal, which is transmitted to the local packet-mode CPE unit. If a downstream digital stream received from the circuit-switched network is destined for a remote packet-mode CPE unit, then the downstream digital stream is converted into a downstream packetized derived voice signal, which is transmitted to the packet-switched network for routing to the remote packet-mode CPE unit.

As with claim 1, in rejecting claim 7, the Examiner relied on teachings in Lucas. As with claim 1, the Applicant respectfully submits that the Examiner has mischaracterized the circuit-based "voice and bulk data" signals taught in Lucas as being examples of the packetized derived voice signals recited in claim 7. For the same reasons given above with respect to claim 1, the Applicant submits that claim 7 is allowable over Lucas.

Furthermore, claim 7 recites both a local packet-mode CPE unit and a remote packet-mode CPE unit. Significantly, claim 7 recites different processing for the packetized derived voice signals generated from downstream digital streams received from the circuit-switched network depending on whether the downstream digital streams are destined for the local or the remote packet-mode CPE. Lucas does not provide such teachings. The teachings cited by the Examiner for these features of claim 7 are related to data signals, not voice signals.

For all these reasons, the Applicant submits that claim 7 is allowable over Lucas. Since claims 8-12 depend variously from claim 7, it is further submitted that those claims are also allowable over Lucas.

Claim 1

Claim 1 recites a multi-services access system having, among other components, a derived-signal server that can convert (1) packetized derived voice signals into digital streams suitable for transmission to a circuit-switched network and (2) digital streams received from a circuit-switched network into packetized derived voice signals. The system of claim 1 also has a packet-mode card and a packet interface, each of which is capable of receiving both packetized data signals and packetized derived voice signals. Moreover, at least one of the packet-mode card and the packet interface is capable of distinguishing packetized data signals from packetized derived voice signals. This enables the packet-mode card and/or the packet interface to determine where to forward received packets (e.g., when to forward packets to the derived signal server because they are packetized derived voice signals and not packetized data signals).

In conjunction with the other components recited in claim 1, the derived-signal server, packet-mode card, and packet interface enable the system of claim 1 to efficiently interface between a circuit-switched network, local packet-mode CPE units, and a packet-switched network.

In rejecting claim 1, the Examiner relied on a combination of teachings in Lucas and Bellenger. On page 9, the Examiner admitted that Lucas does not disclose packetized derived voice signals. On page 9, the Examiner stated that Bellenger teaches packetized derived voice signals. Unfortunately, the passages cited in Bellenger do not appear to describe packetized derived voice signals at all.

On page 10, the Examiner admitted that Lucas does not disclose the derived-signal server of claim 1. The Examiner cited column 18, lines 22-36, of Bellenger as providing these teachings missing from claim 1. Apparently, the Examiner argued that simply by using the word "server," Bellenger "clearly anticipate[s]" the derived-signal server of claim 1.

But claim 1 explicitly recites that "the derived-signal server ... converts the upstream packetized derived voice signal into an upstream digital stream and forwards the upstream digital stream to the controller." It also explicitly recites that "if the downstream digital stream is destined for a local packet-mode CPE unit, then ... the derived-signal server converts the downstream digital stream into a downstream packetized derived voice signal and forwards the downstream packetized derived voice signal to the packet-mode card." Claim 1 explicitly recites further that "if the downstream digital stream is destined for a remote packet-mode CPE unit, then ... the derived-signal server converts the downstream digital stream into a downstream packetized derived voice signal and forwards the downstream packetized derived voice signal to the packet interface." Surely, all of these specific, explicitly recited features of the derived-signal server of claim 1 are not "clearly anticipated" by the mere use of the word "server" somewhere in Bellenger.

For all these reasons, the Applicant submits that claim 1 is allowable over Lucas. Since claims 2-6 and 27 depend variously from claim 1, it is further submitted that those claims are also allowable over Lucas.

New Claims 19-26

New claim 19 is equivalent to claim 5 rewritten in independent form and to overcome the rejections under Section 112, second paragraph. Since the Examiner stated that claim 5 would be allowable if rewritten in independent form and to overcome the rejections under Section 112, second paragraph, the Applicant submits that new claim 19 is allowable. Support for new claims 20-22 is found in original claims 2, 3, and 6, respectively. Since claims 20-22 depend from claim 19, it is further submitted that those claims are also allowable.

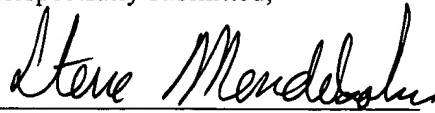
New claim 23 is equivalent to claim 11 rewritten in independent form and to overcome the rejections under Section 112, second paragraph. Since the Examiner stated that claim 11 would be allowable if rewritten in independent form and to overcome the rejections under Section 112, second paragraph, the Applicant submits that new claim 23 is allowable. Support for new claims 24-26 is found in original claims 8, 9, and 12, respectively. Since claims 24-26 depend from claim 23, it is further submitted that those claims are also allowable.

In view of the foregoing, the Applicant submits that the rejections of claims under Sections 102(b) and 103(a) have been overcome.

In view of the above amendments and remarks, the Applicant believes that the now-pending claims are in condition for allowance. Therefore, the Applicant believes that the entire application is now in condition for allowance, and early and favorable action is respectfully solicited.

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Respectfully submitted,


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